BOSTON UNIVERSITY

GRADUATE JOURNAL

A Review of Current Graduate and Research Activities

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"Project Research"*

There has been a tremendous growth in the facilities for medical research and in the number of personnel so engaged during the past decade and a half. This may be ascribed, in large part, to the funds that have become available from governmental agencies and through privately administered organizations engaged in raising funds through public subscriptions. These include, among others, the American Heart Association, the National Foundation for Infantile Paralysis, the American Cancer Society, the Multiple Sclerosis Society, the United Cerebral Palsy Association, and the National Nephrosis Foundation — each appealing for funds in support of some limited segment in Medicine. The increase in interest in medical research is well attested by the thousands who now attend investigative society meetings where formerly there were but a few hundred. The journals devoted to investigative medicine have multiplied in number and the individual issues have become increasingly bulky. With more research going on and more personnel engaged in research, there can be little doubt but that the output will be greater and the accumulation of data accelerated. Nevertheless a question that has bothered numerous scientists is whether, in the phenomenal growth of research, there have not appeared trends dangerous to individual imagination and ingenuity, essential factors in making investigation truly fruitful.

Chief among these trends has been the major allocation of funds for "project research." In essence, this may be described as follows: an investigator outlines in greater or less detail (more often the former) the precise nature of the problem, the method of attack, the equipment, the personnel, and the amount of money required for its successful completion within a

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period of one or two years. In effect, this commits the investigator to a rigid and unswerving course from which he cannot stray to pursue promising leads and, because of the short-term nature of such grants, it keeps him in a perpetual state of insecurity.

A second undesirable trend arises from the tendency of the investigator seeking financial assistance from one of the privately administered organizations to slant his project so that it will be more or less directed toward the avowed purpose which the organization proclaims in its solicitation of funds from the public. Although the direct approach to specific disease problems may be rewarding, the history of medicine is replete with examples of the value of fundamental research. Ehrlich's attack on syphilis was direct and reasonably successful. Fleming's curiosity concerning the penicillium mold contaminating his bacterial cultures would probably not have been supported by a United Syphilis Foundation. Nevertheless the development of his discovery is fast making syphilis a vanishing disease.

The system of "project research" and the direct attack on disease have without doubt been productive of much data and many thoroughly worthwhile studies. Nevertheless, there is a feeling among many scientists that the number of new discoveries, of new ideas and of new concepts has been far fewer than the huge expenditure of effort might have been expected to produce. This would seem to mean that the system has lengthened the always great odds against the occurrence and development of new ideas, the following of chance unexpected observations — in other words, it has militated against the very sort of work that represents the real fruition of investigation.

A laudable trend in the opposite direction is beginning to be manifest in the career Investigatorships of the American Heart Association, in the Markle Fellowships, and others, which seek out medical investigators of promise and then undertake to support them and their work for a period of years. True enough, the number of papers published may be fewer (possibly a consideration of much merit) and only one investigator in ten or twenty may really produce significant original work. But that one may well be of more value than a hundred routine studies!

Project grants of limited scope and of short term duration will always have a real place in furthering medical research, particularly in those phases of investigation that may more properly be called "development" — the *application* of new concepts. The plea is made, however, for greater support of investigators rather than for specific investigations. Let us foster the man with the new idea or the one who has seen the potential significance of a chance observation so that he can pursue the uncharted and unprojected trail! To quote Leonard Engel, "Get a good scientist — and let him alone."

—Maurice B. Strauss

Travel Study for Credit

WILLIAM B. NORTON
Professor of History

Twice in recent months the editors of *School and Society*, a widely read educational journal, have expressed a dim view of travel-study courses offered under university sponsorship.* Are the proponents of granting credit for such courses guilty, as these editors suggest, of giving students a "false sense of academic achievement"? Are they insufficiently "concerned with the maintenance of academic standards"?

Perhaps some proponents are guilty. But is it any more certain that "superficial surveys of several foreign countries" will be detected as such, and refused academic credit, just because they are offered as courses on some greenswarded campus in this country, thousands of miles from the original scene of the crime — or triumph?

Boston University has been sponsoring travel-study courses since the summer of 1951, and some statistics on enrollment in these courses may be of interest. In the last two years, 1953 and 1954, a total of 292 students registered for 12 Boston University travel-study courses; eight of the groups went to European countries, two visited Latin America, one traversed the United States, and one circumnavigated the world by air. The students came from such diverse parts of the country as California and Maine, Texas and Minnesota, Virginia and Arizona. Since no follow-up survey has been made of the actual use of their credits in the many other universities where they were degree candidates, the following statistics come from the personal data sheets by which they effected registration for a particular course. More than 93% of these students (i.e., 272 of them) indicated that they were interested in credits and that they wished to receive grades. Of these, 49 aimed for a Bachelor's degree, 15 for B.A., 34 for B.S. degrees. Another 21 were in Graduate Schools, 16 seeking the A.M. degree, 5, the Ph.D. The remaining 202 were doing postgraduate work, which, if at Boston University, would be in some other school or college than the Graduate School: 2 sought the M.S. degree, 92, the Ed.M., and 2, the Ed.D.; 9 sought Certificates of Advanced Graduate Specialization (C.A.G.S.) at the School of Education; while the other 97, having already a Bachelor's degree, but not specifying their next objective, probably had in view a promotion in salary or rank.

Travel courses seem to have appealed to three categories of students. About one sixth are undergraduates, who wish their credits (up to six semester hours) to count toward a Bachelor's degree. Over three quarters are teachers in service, who by part-time and summer courses hope to earn their next degree, or who expect their superintendent and school board to reward summer study with an appropriate salary increase. What about the occasional A.M. or Ph.D. candidate who reads in the catalogue** that he "may elect, with the approval of his major instructor," a limited number of hours in "advanced courses of a professional character," and offers a travel-study course under this heading?

*I. L. K[andel], v. 77 (April 4, 1953), 216; W. W. B[rickman], v. 80 (August 7, 1954), 44-5. Cf. also C. O. Arndt and A. I. Katsh, v. 80 (October 16, 1954), 124.

***Boston University Bulletin, Graduate School*, 1954-55, p. 31.

In all these cases, particularly the last, the student's major department advisors have the main responsibility for approving the candidate's program. They will still see that he meets all the requirements as to languages, fields of distribution and specialization, written and oral examinations, theses and dissertations. They further have, and should exercise, the right to look critically at the amount and quality of the work done on these "educational junkets," the epithet hurled by the detractors at travel-study courses.

It is not enough for the proponents to retort, though it is quite true, that travel is broadening; that no amount of books or number of hours of chair-warming in libraries and classrooms can equal firsthand, on-the-spot observation; that all of the traveler's subsequent studies and teaching will be leavened thereby; that returning travelers understand and appreciate their own country more than ever; that serious students, capably conducted, are our best ambassadors to other countries, counteracting the deplorable impression made by so many of our irresponsible tourists. Let us, in order to safeguard the academic respectability of travel for credit, suggest several criteria by which a genuine course of study may be differentiated from a mere sight-seeing, souvenir-collecting vacation.

No factor is more indispensable than skilful *leadership* by one or more experienced teachers who understand the aims and methods of the travel-study course. Another criterion is the amount of *preparation* and fitness required of each candidate who undertakes to earn credit in this admittedly unorthodox manner. One desirable concession to orthodoxy might be *residence* for two out of the six or eight weeks duration of the course in a single locality where intensive classroom work can be done. Since *language* is so essential to international understanding, a real student should be expected to improve his facility in a foreign language which he already knows or to make a respectable beginning in a new one. *Participation* by all the traveling students in presenting and criticizing one another's reports and in compiling the log or journal of the tour is an additional criterion. And finally *examination* of the students is doubly important: not only can tests given during and at the end of the course help in grading each student fairly, but they can show the leader those points wherein the course is or is not accomplishing its objectives.

That qualified students are attracted rather than repelled by the maintenance of such standards for courses has been Boston University's experience. The amount and kind of preparation required has varied, naturally, with the subject in which the leader was a specialist: music, art, literature, history, mathematics, science, or economics. In a European History course, for example, a general list of suggested readings was sent to each student soon after the roster (limited to 30) was full, about three months in advance of sailing. Subsequently two sets of individual assignments were sent so that students could locate and read the books, take notes, and write reports before leaving home. In one set of assignments, each student was made responsible for a given period or topic related to the outline of the course as a whole. When that point was reached in the subject, the student was expected to be able to demonstrate orally, with or without notes, a grasp of the topic beyond mere textbook acquaintance. In the other set of assignments, the sequence was determined by the itinerary. Whenever the tour approached an historic spot, the pertinent report would be delivered. Thus, "A Comparison of the City of London in the

Time of Elizabeth I with that of Elizabeth II" might precede "Stonehenge," and both be followed by "The University and Colleges of Oxford." In addition to its oral presentation, a written version of each report in this "itinerary" series, with bibliography and notes, had to be handed in.

The timely location of classes for hearing reports was an important factor in securing participation by the group, for it must be admitted that the competing attractions of shopping and individual sight-seeing tested the leader's tact and ingenuity. One device was to start out of Paris in ample time so as to halt the bus in a pleasant corner of the Bois de Boulogne to hear "Why and How Louis XIV built Versailles," before going on to see the palace itself. Similarly, a pause on the southeastern edge of the town of Chartres for a talk on "Gothic Architecture," in full view of the Cathedral a half mile distant, could not fail to focus everyone's attention. In Stockholm harbor, on the deck of a three-masted ship, the local youth hostel which served as the tour group's "home" for several nights, reports on "The Swedish Co-operative Movement" and "Modern Scandinavian Architecture" were heard and discussed.

Further participation was stimulated when the group made friends with a student of whatever country was currently their host. A charming Danish girl, Lise Wrede, who accompanied them on an all-day bus and boat round-trip from Copenhagen to Odense, spent literally hours discussing the religion, family life, and economic development of Denmark. A Swedish graduate student, having read in advance the unusually detailed written version of a tour member's report on "The Government's Social Services in Sweden," spent an evening explaining to the group his own and his countrymen's attitudes, here favorable, there disapproving, toward various aspects of the program. The reporter, skilfully reducing her oral presentation to a minimum and putting Bertil Andréasson, as it were, on the witness stand, brought what could have been an abstract academic subject into touch with real life.

As for examinations, always an unpopular but indispensable part of a course, the itinerary of the abovementioned tour afforded two convenient breaks, one in the middle and the other near the end. The former was during a three-day stay in Switzerland beneath the gaze of the Jungfrau, while the latter was the crossing of the North Sea between Norway and Scotland. Test questions each time emphasized about equally the facts of European history and geography in the course outline, and the observation and evaluation of contemporary social and economic life.

The members of the staff who have planned these travel-study courses for Boston University seek means of further strengthening and enriching them. Revision of the 1955 summer itineraries to include longer residence in one place, such as Lausanne or Zurich, is under consideration. This would permit, among other things, increased emphasis on language study. Tour members who sail on one of the Council of Student Travel ships will have participated in that organization's "orientation" program during the nine-day Atlantic crossing, with its daily language classes, as well as lectures and discussion groups. With added access to classroom and library facilities on land, the tour leader should find it easier, as he has consistently aimed, to differentiate his function as teacher from that of tourist guide.

The author was strongly tempted to subtitle this article "...or How to Knock the Ivory Tower off the University." For such, rightly or

wrongly, is the view which "the man in the street" often takes of the architecture of higher education, and the higher the more ivory-turreted. Would it not help to correct his perspective if the universities, instead of grudgingly or apologetically granting credit for travel-study courses, would actively develop and promote them?

Sixteenth Century Books in the Chenery Library

Exhibition — December and January

The writings of Erasmus, Livy, Calvin, Luther, Cicero, and Ovid, with some less well known authors may be found in sixteenth century printings in a current exhibition in the Chenery Library Treasure Room. From the 1502 Basel edition of Peter Lombard's *Textus Sententiae*, the earliest of these volumes, to the Paris 1559 printing of the *Sibyllina Oracula*, they present an interesting study in the work of the early printers. The forty titles in thirty-six volumes come from fifteen cities and twenty-seven printing houses in Belgium, France, Switzerland, Germany, and Italy.

Aside from the value of these books as examples in the historical development of typography, it may be of interest to consider how the University Library obtained them. Nineteen are from the Library of Dean William M. Warren, four from the estate of Augustus P. Loring, Jr., two each from W. E. Nickerson and Dr. Howard P. Bellows, one each from Dorothy S. Taylor, John Wenzel, President William F. Warren, Mary K. Taylor, Caroline S. Newell, the Library of Joel Hathaway, and the Lindsay Classical Library. There is no recorded source for one volume.

Some of these titles exhibit interesting bibliographical points. The Lombard text mentioned above and a 1511 Titus Lucretius show the use of fragments of manuscripts in their backing, a common device of early printers. A 1539 Livy printed at Bern by M. Apiarius includes in its colophon an unusually interesting printer's mark in which there is a play upon the name in the illustration showing a man and a hive of bees (beekeeper—*apiarius*). The Vives' *De Disciplinis* (Cologne, 1536) is a good example of a stamped white pigskin binding with metal clasps. The Sacro Bosco copy of *Libellus de Sphaera* (Wittenberg, 1578) has interesting movable diagrams in the text.

Examples of some of the most notable printers are represented including two Aldines, two Plantins, a Froben, and a Guinta. In an account of Belgian printing in 1946 (*Print*, v. 4, no. 4, p. 43), mention is made that the standards set by Plantin are still followed by the City of Antwerp in all its most solemn official publications. Of the Aldine family little need be said of their pre-eminence in early printing. Their nearest rival, the Guinta family, spread its branches from Spain to London and Rome. The Froben is not an example of the founder of the press at Basel but of Hieronymus, a later descendant of the great Johann.

— M.D.H.

Let's Not

ISAAC ASIMOV, *Assistant Professor of Biochemistry*

Dr. Asimov has contrived to pursue two careers simultaneously. With a Ph.D. from Columbia University (1948), he is Assistant Professor of Biochemistry at the Boston University School of Medicine. He is author of many research articles in his field, and he is co-author, with Drs. Burnham S. Walker and William C. Boyd, of the School of Medicine, of Biochemistry and Human Metabolism *(Baltimore: The Williams and Wilkins Co., Second Edition, 1954. xii, 904 pp.)*

In his second career, which he does not conceal behind a pseudonym (or in a space-time warp), Dr. Asimov has achieved success as a popular writer of Science Fiction. He began reading Science Fiction at the age of nine, and, he says, merely succumbed at eighteen to the "irresistible impulse" of trying his own hand at it. His best known books are The Caves of Steel *(1954),* The Currents of Space *(1952), and* Pebble in the Sky *(1950), all published by Doubleday and Company. His* The End of Eternity *is scheduled for publication early in 1955. Some thirty of his short stories have been anthologized.*

This story, written in October for the JOURNAL, *will appear in an anthology edited by Martin Greenberg,* All About the Future, *Gnome Press, Inc., in January, 1955.*

Note: This story is fully protected by Copyright and may not be reproduced in any form without express permission in writing.

Professor Charles Kittredge ran in long, unsteady strides. He was in time to bat the glass from the lips of Associate Professor Heber Vandermeer. It was almost like an exercise in slow motion.

Vandermeer, whose absorption had apparently been such that he had not heard the thud of Kittredge's approach, looked at once startled and ashamed. His glance sank to the smashed glass and the puddling liquid that surrounded it.

"What was it?" asked Kittredge, grimly.

"Potassium cyanide. I'd kept a bit, when we left. Just in case...."

"How would that have helped? And it's one glass gone, too. Now it's got to be cleaned up....No, I'll do it."

Kittredge found a precious fragment of cardboard to scoop up the glass fragments and an even more precious scrap of cloth to soak up the poisonous fluid. He left to discard the glass and, regretfully, the cardboard and cloth into one of the chutes that would puff them to the surface, a half-mile up.

He returned to find Vandermeer sitting on the cot, eyes fixed glassily on the wall. The physicist's hair had turned quite white and he had lost weight, of course. There were no fat men in the Refuge. Kittredge, who had been long, thin and gray to begin with, had, in contrast, scarcely changed.

Vandermeer said, "Remember the old days, Kitt."

"I try not to."

"It's the only pleasure left," said Vandermeer. "Schools were schools. There were classes, equipment, students, air, light, and people. People."

"A school's a school as long as there is one teacher and one student."

"You're almost right," mourned Vandermeer. "There are two teachers. You, chemistry. I, physics. The two of us, everything else we can get out of the books. And one graduate student. He'll be the first man ever to get his Ph.D. down here. Quite a distinction. Poor Jones."

Kittredge put his hands behind his back to keep them steady. "There are twenty other youngsters who will live to be graduate students some day."

Vandermeer looked up. His face was gray. "What do we teach them meanwhile? History? How man discovered what makes hydrogen go boom and was happy as a lark while it went boom and boom and boom. Geography? We can describe how the winds blew the shining dust everywhere and the water currents carried the dissolved isotopes to all the deeps and shallows of the ocean."

Kittredge found it very hard. He and Vandermeer were the only qualified scientists who got away in time. The responsibility of the existence of a hundred men, women and children was theirs as they hid from the dangers and rigors of the surface and from the terror Man had created here in this bubble of life half a mile below the planet's crust.

Desperately, he tried to put nerve into Vandermeer. He said, as forcefully as he could, "You know what we must teach them. We must keep science alive so that some day we can repopulate the Earth. Make a new start."

Vandermeer did not answer that. He turned his face to the wall.

Kittredge said, "Why not? Even radioactivity doesn't last forever. Let it take a thousand years, five thousand. Some day the radiation level on Earth's surface will drop to bearable amounts."

"Some day."

"Of course. Some day. Don't you see that what we have here is the most important school in the history of man? If we succeed, you and I, our descendants will have open sky and free-running water again. They'll even have," and he smiled wryly, "graduate schools such as those we remember."

Vandermeer said, "I don't believe any of it. At first, when it seemed better than dying, I would have believed anything. But now, it just doesn't make sense. So we'll teach them all we know, down here, and then we die,. . . *down here.*"

"But before long Jones will be teaching with us, and then there'll be others. The youngsters who hardly remember the old ways will become teachers, and then the youngsters who were born here will teach. This will be the critical point. Once the native-born are in charge, there will be no memories to destroy morale. This will be their life and they will have a goal to strive for, something to fight for,. . . a whole world to win once more. *If*, Van, *if* we keep alive the knowledge of physical science on the graduate level. You understand why, don't you?"

"Of course I understand," said Vandermeer, irritably, "but that doesn't make it possible."

"Giving up will make it impossible. That's for sure."

"Well, I'll try," said Vandermeer in a whisper.

So Kittredge moved to his own cot and closed his eyes and wished desperately that he might be standing in his protective suit on the planet's surface. Just for a little while. Just for a little while. He would stand beside the shell of the ship that had been dismantled and cannibalized to create the bubble of life here below. Then he could rouse his own courage just after sunset by looking up and seeing once more, just once more as it gleamed through the thin, cold atmosphere of Mars, the bright, dead evening star that was Earth.

Record of Research—XVI

The following list of books and articles published recently by members of the University staff or by students was compiled partly from information made available in the offices of the President of the University and of the Dean of the Graduate School, and partly from the *Boston Medical Quarterly*, a publication of the Boston University School of Medicine and the Massachusetts Memorial Hospitals.

Biology

FULTON, GEORGE P., JOFTES, DAVID L., KAGAN, ROMA, & LUTZ, BRENTON R. "Hematologic Findings in the Total Body X-irradiated Hamster," *Journal of Hematology*, 9 (June 1954), 622-631.

FULTON, GEORGE P., LUTZ, BRENTON R., PATT, DONALD I., & YERGANIAN, GEORGE. "The Cheek Pouch of the Chinese Hamster (*Cricetulus griseus*) for Cinephotomicroscopy of Blood Circulation and Tumor Growth," *Journal of Laboratory and Clinical Medicine*, 44 (July 1954), 145-8.

FULTON, GEORGE P., MAYNARD, FRANCIS L., & WEST, GEOFFREY B. "Tissue Mast Cells in the Hamster," *Journal of Physiology*, 124 (May 28, 1954), 29-30.

HUMES, ARTHUR G. "*Myticlicola Porrecta* N. Sp. (Copepoda: Cyclopoida) from the Intestine of Marine Pelecypods," *Journal of Parasitology*, 40 (April 1954), 186-194.

———. "*Ostrincola Gracilis* C. B. Wilson, a Parasite of Marine Pelecypods in Louisiana (Copepoda, Cyclopoida)," *Tulane Studies in Zoology*, Vol. 1, No. 8 (Dec. 21, 1953.), 99-107.

———. "Two New Semiparasitic Harpacticoid Copepods from the Coast of New Hampshire," *Journal of the Washington Academy of Sciences*, 43 (Nov. 1953), 360-373.

SHULMAN, MAURICE H., FULTON, GEORGE P., & MORONT, GEORGE P. "Effect of Cortisone on the Healing of Localized Burns in the Hamster Cheek Pouch," *N. E. Journal of Medicine*, 251 (Aug. 12, 1954), 257-261.

YOUNG, GENEVIEVE. "Experimental Staphylococcus Infection in the Hamster Cheek Pouch: The Process of Localization," *Journal of Experimental Medicine*, 99 (Mar. 1, 1954), 299-306.

Economics

BEVERAGGI-ALLENDE, WALTER M. "Consumo e Inversión como Propulsores del Desarrolo Económico," *El Trimestre Económico*, México, D. F., 21 (Jan.-Mar. 1954), 44-55.

———. *El Servicio del Capital Extranjero y el Control de Cambios*. Fondo de Cultura Económica, México, D.F., April 1954, 238 pp.

NELSON, ROBERT A. "The New England Transportation System and Its Use," being Chapter 13, pp. 473-526, in *The Economic State of New England*. (Report of the National Planning Association. Published by arrangement with the New England Council. New Haven: Yale University Press, 1954.) Reprinted separately; available as No. 13 in the Report Series of the Committee of New England from the New England Council, Statler Building, Boston, at 60 cents.

Government

HARVEY, LASHLEY G. "Demokrasinin Esasi Olarak Mahalli Hükûmet" ("Direct Democracy in the New England Towns"), *Siyasal Bilgiler Fakültesi Dergisi* (Ankara, Turkey), 9 (Summer 1954), 3-14 in reprint.

STERN, T. NOEL. "An Appraisal of French Universities," *Journal of Higher Education*, 25 (Oct. 1954), 351-6. ". . . an enlargement of an essay 'Impressions of Higher Education in France' which appeared in 1953 in the BOSTON UNIVERSITY GRADUATE JOURNAL."

WESTMEYER, TROY R. "The Boston Program for Government Employees —First Appraisal," *Personnel Administration*, 17 (July 1954), 61-20. Reprint of "The Special Program for Government Employees—First Appraisal," BOSTON UNIVERSITY GRADUATE JOURNAL, 2 (Oct. 1953), 28-30, with parts of "Special Program for Government Employees," *ibid.*, 1 (Jan. 1953), 113-4.

Legal Medicine

JETTER, WALTER W. "Chemical Injury." In: Anderson, W.A.D., ed. *Pathology*. St. Louis: Mosby, 1953. pp. 142-165.

JETTER, WALTER W., LINDSLEY, O. R. and WOHLWILL, F. J. "The Effects of X-irradiation on Physical Exercise and Behavior in the Dog; Related Hematological and Pathological Control Studies." (This work was done under Contract AT30-1 1201 between the U. S. Atomic Energy Commission and Boston University, 1953).

Medicine

WILKINS, ROBERT W., TINSLEY, C. M., CULBERTSON, J. W., BURROWS, BELTON A., JUDSON, WALTER E., & BURNETT G. H. "The Effects of Venous Congestion of the Limbs upon Renal Clearances and the Excretion of Water and Salt. I. Studies in Normal Subjects and in Hypertensive Patients before and after Splanchnicectomy." *J. Clin. Investigation*, 32: 1101-1116, 1953.

Microbiology

EDSALL, GEOFFREY. "Factors Affecting the Antibody Response." In: Pappenheimer, A. M., Jr. *The Nature and Significance of the Antibody Response*. Symposium held at the New York Academy of Medicine, March 21 and 22, 1951. New York: Columbia University Press, 1953. pp. 69-89.

Music

GEIRINGER, KARL, in collaboration with IRENE GEIRINGER. *The Bach Family: Seven Generations of Creative Genius*. New York: Oxford University Press, 1954. xiv, 514 pp. $7.50.

Obstetrics and Gynecology

PARSONS, LANGDON, & ULFELDER, HOWARD. *An Atlas of Pelvic Operations*. Philadelphia: Saunders, 1953. 231 pp. 220 pl. $18. The first strictly medical book to be selected by the American Institute of Graphic Arts as one of the fifty best books of the year.

TENNEY, BENJAMIN. "Medical Progress: Hypertension in Pregnancy," *New England J. Med.*, 249: 1108-1115, 1953.

Orthopedic and Fracture Surgery

CHRISTOPHE, KENNETH. "Rupture of the Extensor Pollicis Longus Tendon following Colles' Fracture," *J. Bone and Joint Surg.* 35: 1003-1005, 1953.

KUHNS, JOHN G., POTTER, THEODORE A., HORMELL, ROBERT S., & ELLISTON, W. A. "Nylon Membrane Arthroplasty of the Knee in Chronic Arthritis," *J. Bone and Joint Surg.*, 35: 929-936, 1953.

Boston University Books Reviewed

BOSTON UNIVERSITY. *The Gaspar G. Bacon Lectures on the Constitution of the United States, 1940-1950.* Boston: Boston University Press, 1953. x, 541 pp. $6.00.

Reviewed by FRANK W. GRINNELL
Secretary, Massachusetts Bar Association

This interesting and timely series of ten lectures by well-known historical scholars, in memory of Gaspar Bacon, helps to emphasize the practical purpose and significance of the most forgotten article of the Massachusetts Bill of Rights of 1780:

Article XVIII. A frequent recurrence to the fundamental principles of the Constitution, and a constant adherence to those of piety, justice, moderation, temperance, industry, and frugality, are absolutely necessary to preserve the advantages of liberty, and to maintain a free government. The people ought, consequently, to have a particular attention to all those principles, in the choice of their officers and representatives; and they have a right to require of their lawgivers and magistrates an exact and constant observance of them, in the formation and execution of the laws necessary for the good administration of the Commonwealth.

The volume opens, most appropriately, with Professor Arthur N. Holcombe's lecture on "Sections, Classes, and the Federal Constitution" (3-30), a lecture that closes with the sound, balanced judgment, "The Federal Constitution was not a triumph of capitalistic interests or of oligarchic principles, as is often alleged by Communists and Fascists [and he might have added various other forms of '-ists']. It was the supreme instance in history up to 1787 of the triumph of the average man."

In these days when discrimination in the use of the English language appears to be largely in abeyance, it is refreshing to find the word "average" instead of the usual current and meaningless, parroted phrase "the common man." The word "average" is accurate because it involves the idea of balance, which was the basis of our constitutional structure and its restraints of power. When the Philadelphia Convention of 1787 adjourned, Benjamin Franklin described the structure of the government in his much quoted words as "a republic if you can keep it." The question today is whether the "average" American can "keep" the structure of his representative "republic" on which what he knows as his "freedom" largely depends. Professor Carl Brent Swisher ends his lectures, in this volume, on "The Post-War Constitution" (311-378), with the statement, "Our constitutional structure creaks and groans... but as yet it rests firmly upon its foundations." Can it stay on these foundations? That question calls for balanced thinking by the "average man."

The other lectures bear on this question in varying ways and degrees by their studies of past and more or less current history. Professor Henry Steele Commager gives a biographical account of Justice Joseph Story and his influence (33-94); Professor Allan Nevins tells the story of the constitutional controversy over slavery and the territories (97-141); Professor Robert E. Cushman discusses problems of civil liberty (145-196), and Professor Leonard D. White describes "Public Administration under the Federalists" and its bearing on present and future government (199-247). Professor Louise Overacker studies the matter of presidential campaign funds and attempts at their control (251-307). Former Justice Owen Roberts presents his "blue-

print" and structural picture of our government (381-422). Professor Charles Fairman varies the collection by a readable account of "What Makes a Great Justice" with special reference to Mr. Justice Bradley, who qualified (425-485).

The series closes with a discussion by Harrison Tweed, an exceptionally qualified president of one organization after another, and currently of the American Law Institute, on the constitutional position of the Supreme Court and current proposals for amendment designed to protect that position (489-541).*

Limitations of space prevent individual discussion of each lecture. I have already emphasized the first one, by Professor Holcombe. Of the others, that of Professor Swisher seems to me peculiarly pertinent to the great problem of the American "republic" — to Franklin's suggested question of whether we can "keep it" — for reasons illustrated by the following quotations:

They [our forefathers] assumed that the rank and file of individual men were neither all good nor all bad, neither saints nor devils. Every man was deemed worthy of initial opportunities of freedom. None was deemed trustworthy of absolute power over others. (321)

Spurred on by their experience with the tyranny of the British government, our forefathers gave much thought to minimizing the possibility for tyranny in their own government. ... they sought to approximate in government the basic factors which guided the individual in the exercise of his personal freedom. . . . to the end that the discipline of individual self control might have its parallel in the government of the nation. (322-3)

Contrary to the beliefs of some critics, inefficiency never was and is not now the goal of those who advocate a government of checks and balances. Rather, it was accepted as part of the high price which society must pay for government without tyranny. (324)

What relevant changes have taken place since the government was established? Have they included fundamental changes in human nature? Do [men] no longer get drunk with the possession of great power over others? Obviously the answer is that no important change in this field has taken place. (324)

The executive branch of the government has recently run to a total of some three million employees. The organization of these employees results in establishment of intricate labyrinths of power. (325)**

. . . the people of the United States are seldom entitled to any high rating for the zeal, efficiency, and far-sightedness with which they have governed themselves. (330)

It is clear, therefore, that our all too habitual negligence must be replaced not by abandonment of representative government but by abandonment of the negligence. The American nation has come of age. Its people must face their adult problems with the maturity of their

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*On pages 489-490, Mr. Tweed refers to certain proposed constitutional amendments; and, on pages 522 and 531, he summarizes various arguments for and against them. Those interested will find such arguments more fully developed in two articles, one by former Justice Owen J. Roberts in the American Bar Association *Journal*, January 1949, and the other, in answer to a part of Justice Robert's article, in the A.B.A. *Journal*, August 1949. One of the amendments, relating to the appellate jurisdiction of the Supreme Court of the United States, was debated and defeated three times in the A.B.A. House of Delegates before the final majority vote of approval, referred to by Mr. Tweed. The present writer was then, and is still, with the minority in that final vote and, with Honorable Hatton Sumners and others, opposed it repeatedly in the debates in the House. The other proposal, referred to by Tweed, to make the justices ineligible for the presidency or vice-presidency, I heartily approve. Chief Justice Waite suggested it in the seventies when he refused to be considered.

**On the word "recently," note that this lecture was delivered in 1947. With this quotation compare the statement of William G. Sumner half a century ago: "The seduction of power is just as masterful over a democratic faction as ever it was over king or barons. In former days it often happened that 'The State' was a barber, a fiddler, or a bad woman. In our day it often happens that 'The State' is a little functionary on whom a big functionary is forced to depend."

adulthood. They must face the fact that their problems can not be solved by an adolescent dependency on a leader or group of leaders who are in actuality no more mature than the people at large, or, at best, are no more mature than the people at large ought to be. (331)

This final quotation illustrates the remark of the late Dean Inge, in his essay "Escapism" (in *The End of an Age*), in which he reminded us that "the effect of boredom on a large scale in history is underestimated." It is an arresting sentence, for, as the Eighteenth Article quoted above warned us, the "average" American cannot afford to be too bored to think about power, its distribution, and the dangers of its arbitrary use. James Otis, in "The Rights of the British Colonies," 1764, called this "the grand political problem of all ages." Thomas B. Wait of Portland wrote in 1787 that to consolidate the vast continent of America into one government would be like trying "to rule Hell by prayer." Was he wrong? And yet there is a constant movement to do just that today — in the direction of totalitarianism. Can it be checked, balanced, and controlled? I do not know, but I am optimist enough to believe that we will "muddle through" somehow if we survive the H- or other bomb competition.

On February 8, 1788, in No. LI of the *Federalist Papers*, Hamilton (or Madison) wrote:

If men were angels, no government would be necessary. If angels were to govern men, neither external nor internal controls on government would be necessary. In framing a government by men over men, the great difficulty lies in this: you must first enable the government to control the governed; and in the next place, oblige it to control itself.

For its bearing on all these problems, I recommend this volume of Bacon Lectures.

Thesaurus of Orchestral Devices. By Gardner Read.* New York: Pitman Publishing Corp., 1953. xxi, 631 pp. $15.00.

Reviewed by RUDOLPH ELIE**

In a lifetime of reading musical books I have never got quite such a jolt as I have this past fortnight reading [this book]...the listing of every conceivable use of instruments and instrumental combinations composers from the day of Bach to the present have used in scoring their compositions for orchestra. And to learn from it that composers have specified no less than 60 different stick types — including a knife-blade — to be used in playing the timpani is only one of endless facts this monumental survey contains.

Mr. Read, who devoted five years to the compilation of this unique book, makes it very clear from the outset that he has drawn his material only from published works. ...if a student or musician wishes to see exactly how Mahler made use of cowbells in the Sixth Symphony, he need only pursue Mr. Read's reference that it appears on page 35, measure 21 of the Novello score.

*A well-known composer, and Professor of Composition and Music Theory in the School of Fine and Applied Arts, Division of Music.

**Music critic of the *Boston Herald*. This review is a reprint, by permission of Mr. Elie and of the Boston-Herald Corporation, from the review that appeared in the *Herald*, January 10, 1954.

The author also makes it very clear that the *Thesaurus* is no more an evaluation or criticism of the musical examples given than Bartlett's *Quotations* is an evaluation or criticism of the literary examples given. He thus uses musical examples drawn from the works of every published composer whether they may be Ludwig van Beethovens or Knut Nystedts; the particular status of the composers in question is never intruded. The only concern, as indeed it should be, is the demonstration of how instruments have been employed (and this is one of the most astonishing aspects of the book), and how composers have set forth their directions for special ways of playing the instruments. Mr. Read has divided this great work into 71 chapters beginning with the nomenclature of instruments (in four languages, a practice continued throughout in connection with any directions or definitions). There follows a comparative table of ranges of all the instruments and a valuable chart showing the evolution of the symphony orchestra from the modest instrumental disposition of Bach to the immense aggregation of Schönberg in the "Gurre-Lieder."

Then follows the body of the work, given over to a detailed discussion of the woodwinds, brasses, percussion, keyboard instruments, harp and strings (in the order they appear in score), with concluding lists of publishers, composers and works, and indices of abbreviations, notations, numerals, nomenclature and terminology.

To be sure, this work . . . is of fairly special value; the average record-buyer or concert-goer need hardly add it to his Grove or his Thompson.

For composers, arrangers, librarians, musicologists, students, critics and all others with professional contact with music, as well as those with a particularly insuppressible passion for orchestral music, it is, however, a book with an inexhaustible fountain of information. They will be perpetually amazed to learn that the percussion section consists not only of the conventional timpani, bass drums, side drums, cymbals, triangles and xylophones, but of anvils, chains, sirens, thundermachines, automobile horns, pop bottles, records (a nightingale in "The Pines of Rome"), toy balloons to be punctured, flexatones (Khatchatourian's Piano Concerto), musical tumblers, horse's hooves; even a box filled with sand (Hindemith Kammermusik No. 1).

The body of the work, of course, is given over to more conventional illustrations, such as the use of glissandi, the various methods of bowing (détaché, marcato, spiccato, saltando, sul tasto, etc.), the various illustrations of off-stage performance requirements, solo roles, extreme ranges called for, and so on. There is even a chapter on the demands for such jazz effects as the growl, the flare, the rip, the smear and the lip slur.

But it will be noticed that the more eccentric demands and usages and the more singular effects are contained in the works of composers who, though published, are hardly in the main stream of performed music. Indeed, their only contribution in the long run may be some of their more ingenious inventions in terms of orchestral color and effect, for it may be supposed that the composers who have the most to say are least dependent on whacking the keys of a piano with rubber mallets or using a four-foot plank to depress all the keys at once.

This, however, has nothing to do with Mr. Read's contribution, which will remain, I am certain, as much a cornerstone among the world's reference works as the *Encyclopedia Britannica*. A truly monumental accomplishment, in short, perfectly executed in one of the finest examples of technical book making of the day.